Beams of uniform section and uniformly distributed load

Natural frequencies $fn = \frac{A}{2\pi}\sqrt{\frac{EI}{pSl^4}}$

where π = pi (~3.142)

E = Young's modulus (Nm^{-2})

I = Area moment of inertia of beam cross section ($Kg\ m^2$)

l = Length of beam (m)

p = Mass density of beam material (Kgm^{-3})

S = Area of cross section(m^2)

A = Coefficient from Figure 5

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$\lambda = c/f$

where c = wave speed (ms^{-1})

f = Frequency (Hz)

λ = Wavelength (m)

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Figure 10